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Sub 20 ~~E 13. The method of claim 7 wherein the amplified target polynucleotide is contacted with a label.~~

14. The method of claim 7 wherein the amplified target polynucleotide is contacted with a labeled probe.]

15. The method of claim 7 wherein the amplified target polynucleotide is contacted with a second support which binds to the amplified target polynucleotide.

Sub 21 ~~E 16. The method of claim 15 wherein the amplified target polynucleotide is contacted with a labeled probe.]~~

17. The method of claim 16 wherein the target polynucleotide is amplified with a polymerase.

E 4 ~~18. The method of claim 17 wherein the target polynucleotide is a DNA polynucleotide and the polymerase is a DNA polymerase.~~

Sub 22 ~~19. A method for detecting a target polynucleotide contained in a sample comprising the steps of:~~

(a) contacting the sample with a first support which binds to the target polynucleotide;

(b) substantially separating the first support and bound target polynucleotide from the sample;

(c) amplifying the sample with a DNA polymerase;

(d) contacting the amplified target polynucleotide with a second support which binds to the amplified target polynucleotide and also with a labeled probe which binds to the amplified target polynucleotide; and

(e) detecting the presence of the amplified target polynucleotide.

171 ~~20. A kit for detecting a target polynucleotide contained in a sample comprising:~~

(a) means for substantially separating the target polynucleotide from the sample;

(b) means for amplifying the target polynucleotide;

(c) means for binding the amplified target polynucleotide to a solid support; and

(d) means for labeling the amplified target polynucleotide.]

173 ~~21. The kit of claim 20 wherein:~~

(a) the means for substantially separating the target polynucleotide from the sample include a first support;

(b) the means for amplifying the target polynucleotide include a polymerase;

(c) the means for binding the amplified target polynucleotide to a solid support include a capture probe which binds to the solid support and to the amplified target polynucleotide; and

(d) a detector probe for labeling the amplified target polynucleotide.]

171 ~~22. The kit of claim 21 further comprising a capture probe which binds to the first support and to the target.]~~

173 ~~23. The kit of claim 22 wherein the polymerase is a DNA polymerase and the detector probe is labeled.]~~

175 Sub 24 ~~24. A kit for amplifying a target polynucleotide contained in a sample comprising:~~

(a) means for substantially separating the target polynucleotide from the sample and

(b) means for amplifying the target polynucleotide.]

173 ~~25. The kit of claim 24 wherein:~~

(a) the means for substantially separating the target polynucleotide from the sample includes a support which binds to the target polynucleotide and

(b) the means for amplifying the target polynucleotide includes a polymerase.]

171 ~~26. The kit of claim 25 wherein:~~

(a) the polymerase is a DNA polymerase; and

(b) the means for substantially separating the target polynucleotide from the sample includes a probe which binds to the target polynucleotide and the support.]

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~~27. A method for amplifying a target polynucleotide~~  
contained in a sample medium comprising the steps of:

- (a) contacting the sample medium with reagent comprising a first nucleic acid probe which binds to the target to form a probe-target complex;
- (b) contacting the sample medium with a support which binds to the first nucleic acid probe of the probe-target complex;
- (c) substantially separating the support and bound probe-target complex from the sample medium;
- (d) contacting the support and bound probe-target complex with a second medium;
- (e) releasing the probe-target complex into the second medium;
- (f) substantially separating the support from the second medium; and
- (g) amplifying the target polynucleotide.

28. A method for detecting a target polynucleotide contained in a sample medium comprising the steps of:

- (a) contacting the sample medium with reagent comprising a first nucleic acid probe which binds to the target to form a probe-target complex;
- (b) contacting the sample medium with a support which binds to the first nucleic acid probe of the probe-target complex;
- (c) substantially separating the support and bound probe-target complex from the sample medium;
- (d) contacting the support and bound probe-target complex with a second medium;
- (e) releasing the probe-target complex into the second medium;
- (f) substantially separating the support from the second medium;
- (g) amplifying the target polynucleotide; and
- (h) detecting the presence of the target polynucleotide.

29. The method of detecting a target polynucleotide of claim 28 wherein the target polynucleotide is amplified with a polymerase.

30. The method for detecting a target polynucleotide of claim 29 wherein the polymerase is a DNA polymerase, an RNA polymerase, a transcriptase, or Q $\beta$ -replicase.

31. The method for detecting a target polynucleotide of claim 30 wherein the polymerase is a DNA polymerase.

~~32. The method for amplifying a target polynucleotide of claim 27 wherein the target polynucleotide is amplified with a polymerase.~~

33. The method for amplifying a target polynucleotide of claim 32 wherein the polymerase is a DNA polymerase.

~~34. A method for amplifying a target polynucleotide~~  
contained in a sample medium comprising the steps of:

- (a) contacting the sample medium with a support and a probe which binds to the target polynucleotide and the support;
- (b) substantially separating the support and bound probe and target polynucleotide from the sample medium;
- (c) contacting the support and bound probe and target polynucleotide with a second medium;
- (d) releasing the target polynucleotide into the second medium;
- (e) substantially separating the support and bound probe from the second medium; and
- (f) amplifying the target polynucleotide.

35. The method for amplifying a target polynucleotide of claim 34 wherein the target polynucleotide is amplified a polymerase.

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~~36. The method for amplifying a target polynucleotide of claim 35 wherein the polymerase is a DNA polymerase, an RNA polymerase, a transcriptase or Q $\beta$  replicase.~~

37. The method for amplifying a target polynucleotide of claim 36 wherein the polymerase is a DNA polymerase.

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~~38. A method for detecting a target polynucleotide contained in a sample medium comprising the steps of:~~

- (a) contacting the sample medium with a support and probe which binds to the target polynucleotide and the support;
- (b) substantially separating the support and bound probe and target polynucleotide from the sample medium;
- (c) contacting the support and bound probe and target polynucleotide with a second medium.

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(d) releasing the target polynucleotide into the second medium;

(e) substantially separating the support and bound probe from the second medium;

(f) amplifying the target polynucleotide; and

(g) detecting the presence of the amplified target polynucleotide.

39. The method for detecting a target polynucleotide of claim 38 wherein the target polynucleotide is amplified with polymerase.

40. The method for detecting a target polynucleotide of claim 39 wherein the polymerase is a DNA polymerase.

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